REMARKS

Reconsideration is requested in view of the above amendments and the following remarks. The specification has been revised editorially. Claims 1-9 and 11-12 have been revised. Support for the revisions can be found at, e.g., Figs. 4 and 5, among other places. Claims 1-18 remain pending in the application.

Objections to the Specification

The specification is objected to as not descriptive. The specification has been revised editorially. The title has been changed to AN OVERLAPING COMMAND SUBMITTING METHOD OF DYNAMIC CYCLE PIPELINE. Withdrawal of the objection is respectfully requested.

Claim Objections

Claims 1-18 are objected to due to informalities. Claims 1-9 and 11-12 have been revised by using "submitting" to replace "committing." Claim 12 has been revised to depend from claim 2. Withdrawal of the objection is respectfully requested.

Claim Rejections – 35 USC § 112

Claim 1-18 are rejected under 35 USC 112, second paragraph, as being indefinite. Applicants respectfully traverse this rejection. Claims 1-9 and 11-12 has been revised editorially to address the issues. Withdrawal of the rejection is respectfully requested.

Claim Rejections – 35 USC § 103

Claims 1, 4-10 and 15-18 are rejected under 35 USC § 103(a) as being unpatentable over Computer Organization and Design (hereinafter referred to as "Hennessy") in view of Kawasaki et al. (US 6,343,357). Applicants respectfully traverse this rejection.

Claim 1 requires judging whether a pipeline is not full, if it is not full, directly inserting a new command; otherwise, waiting for an exiting signal from a command in the pipeline in the last pipeline period before exiting. Claim 1 also requires judging

whether there is command relevance between the new command to be inserted and an old command to exit after receiving the exiting signal. The present arrangement allows commands to flow more continuously in the pipeline and thus allows a pipeline to be used more efficiently.

Hennessy fails to teach or suggest judging whether a pipeline is not full, if it is not full, directly inserting a new command; otherwise, waiting for an exiting signal from a command in the pipeline in the last pipeline period before exiting, as required by claim 1. Instead, Hennessy discusses inserting at least one bubble into a pipeline when there is a conflict between an old instruction and a new instruction (see Hennessy, pages 489-91), and, as a result, bubbles may appear in the pipeline. In fact, the bubbles in Hennessy would cause problems similar to those discussed in the Background of the Invention of the present application (see, e.g., the paragraph bridging pages 1 and 2 of the specification, among other places). Hennessy indeed provides no teaching or suggestion as to judging whether a pipeline is not full, if it is not full, directly inserting a new command; otherwise, waiting for an exiting signal from a command in the pipeline in the last pipeline period before exiting, much less any reason to expect that the advantages enjoyed by the present invention, e.g., efficient use of the pipeline, could be achieved.

Kawasaki et al. do not remedy the deficiencies of Hennessy. Moreover, Kawasaki et al. also fail to teach or suggest judging whether there is command relevance between the new command to be inserted and an old command to exit after receiving the exiting signal, as required by claim 1. Kawasaki et al. merely discuss that when an internal bus is shared between a data transfer operation and an instruction fetch operation, a pipe control is executed to prefer the instruction fetch operation over the data transfer operation. Kawasaki et al. is silent as to judging whether two commands are relevant. In fact, Kawasaki et al. provide no teaching or suggestion as to a need to judge whether two commands are relevant to each other because the pipe control is set to prefer the instruction fetch operation over the data transfer operation.

For at least these reasons, claim 1 is patentable over Hennessy in view of Kawasaki et al. Claims 4-10 and 15-18 depend ultimately from claim 1 and are patentable along with claim 1 and need not be separately distinguished at this time.

Applicants are not conceding the relevance of the rejection to the remaining features of the rejected claims.

Claims 2-3 and 10-14 are rejected under 35 USC § 103(a) as being unpatentable over Hennessy/Kawasaki et al. in view of Vaglica et al. (US 5,084,814). Applicants respectfully traverse this rejection. Claims 2-3 and 10-14 depend ultimately from claim 1 and are patentable over Hennessy/Kawasaki et al. in view of Vaglica et al. for at least the same reasons discussed above regarding claims 1, 4-10 and 15-18. Vaglica et al. do not remedy the deficiencies of Hennessy/Kawasaki et al. Applicants are not conceding the relevance of the rejection to the remaining features of the rejected claim.

In view of the above, favorable reconsideration in the form of a notice of allowance is respectfully requested. Any questions regarding this communication can be directed to the undersigned attorney, Rong Yang, Limited Recognition No. L0279, at (612) 455-3816.

Respectfully submitted,

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